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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,491	01/11/2001	Haruo Tanaka	P107400-00021	8241

7590

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/757,491

Applicant(s)

TANAKA ET AL.

Examiner

Jennifer T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 January 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 2,3,5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. This office action is responsive to amendment filed on 03/06/2003.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1, 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozawa et al. (U.S. Patent No. 6,522,315).

Regarding claim 1, referring to Fig. 19, Ozawa teaches a nonvolatile display device comprising: a display element (40); a control element (30) for controlling a current to be applied to said display element (40) to drive said display element (40); and a nonvolatile data holding section (cap) (i.e. holding capacitor cap) connected to said control element (30) and capable of holding control data of said control element (30) in a floating state (col. 20, lines 30-40, col. 21, lines 16-58).

Regarding claim 9, Ozawa teaches the display element is formed by an organic EL element (col. 1, lines 18-24).

Regarding claim 10, referring to Fig. 19, Ozawa teaches a nonvolatile display device wherein display elements (40) constituting each pixel are arranged in a matrix and on/off of each of said display elements (40) is controlled to sequentially change a display image by a control

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element (30) provided in said each of said display elements (40), comprising the steps of: providing a nonvolatile data holding section (cap) (i.e. holding capacitor cap) in said control element (30) for controlling a driving operation of said each of said display elements (40); carrying out a display on a display element (40) having no change in a control state of said display elements, based on the data of said nonvolatile data holding section (cap) without applying the display data; and applying and displaying the new display data to only a display element (40) to be changed in a display state and recording said new display data in said nonvolatile data holding section (cap) (col. 20, lines 30-40, col. 21, lines 16-58, from col. 4, line 52 to col. 5, line 47).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al. (U.S. Patent No. 6,522,315) in view of Taguchi et al. (Pub. No. U.S 2002/0153881).

Regarding claim 7, Ozawa differs from claim 7 in that he does not specifically teach the nonvolatile data holding section is constituted by an element utilizing a magnetoresistance effect. However, Taguchi teaches nonvolatile data holding section (i.e. capacitor) is constituted by an element utilizing a magnetoresistance effect ([0046], [0269] and page 14, lines 1-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the nonvolatile data holding section is constituted by an element utilizing a

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magnetoresistance effect as taught by Taguchi in the system of Owaza in order to reduce the size of the substrate of display without performing the flattening treatment.

6. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al. (U.S. Patent No. 6,522,315) in view of Yamazaki et al. (U.S. Patent No. 5,349,366).

Regarding claim 4, Ozawa differs from claim 4 in that he does not specifically teach the nonvolatile data holding section is formed of a ferroelectric capacitor. However, referring to Fig. 1A, Yamazaki discloses nonvolatile data holding section is formed of a ferroelectric capacitor (FE) (col. 7, lines 46-56, col. 10, lines 24-29 and col. 23, lines 30-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the nonvolatile data holding section is formed of a ferroelectric capacitor as taught by Yamazaki in the system of Ozawa in order to increase the speed and writing lifetime of the display device.

Regarding claim 8, Ozawa differs from claim 8 in that he does not specifically teach the nonvolatile data holding section is constituted by a single electron memory. However, Yamazaki discloses nonvolatile data holding section is constituted by a single electron memory (col. 7, lines 46-56). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the nonvolatile data holding section is constituted by a single electron memory as taught by Yamazaki in the system of Ozawa in order to provide the same display can be continuously maintained even if data for display are not applied consecutively. Consequently, power consumption can be reduced.

7. Claims 2, 3, 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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8. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

9. The prior art made of record and not relied upon is considered to pertinent applicant's disclosure.

Ishii (U.S. Patent No. 6,225,969) teaches driver of liquid crystal panel, LCD and electronic equipment.

Katoh et al. (U.S. Patent No. 5,708,454) teaches matrix type display apparatus.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**.

The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, DC. 20231

**Or faxed to: 703-872-9314 (for Technology Center 2600 only)**


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding

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should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

Jennifer T. Nguyen  
Patent Examiner  
Art Unit 2674



RICHARD HJERPE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600